FKLF (fetal), BKLF (basic), GKLF (gut), LKLF (lung). Regulators of tissue-specific gene expression. GATA-1, EKLF, and FKLF.

In the Claims

Please cancel claims 1-37 and add new claims 38-88.

38. (New)A method to identify a test compound that modulates chromatin remodeling of a specific DNA sequence within chromatin comprising:

a) providing one or more subunits of a chromatin remodeling complex associated with a domain of a nucleic acid regulatory protein;

b) contacting the one or more subunits of the chromatin remodeling complex associated with the domain of the nucleic acid regulatory protein with the test compound; and

c) determining whether there is an increase or decrease in the interaction between the one or more subunits of the chromatin remodeling complex and the domain of the nucleic acid regulatory protein, wherein an increase or decrease indicates that the compound modulates the chromatin remodeling of a specific DNA sequence with chromatin.

39. (New)The method of claim 38, wherein the domain is a DNA binding domain.

40. (New)The method of claim 38, wherein the nucleic acid regulatory protein is a transcription factor.

41. (New)The method of claim 39, wherein the domain is a zinc-finger domain.

42. (New)The method of claim 39, wherein the domain is helix-turn-helix or helix loop helix containing a leucine zipper motiff.

43. (New)The method of claim 38, wherein the domain is a peptide.

44. (New)The method of claim 38, wherein the chromatin remodeling complex is SWI/SNF.

45. (New)The method of claim 38, wherein the chromatin remodeling complex is ISWI.

46. (New)The method of claim 44, wherein the SWI/SNF complex is E-RC1.

47. (New)The method of claim 44, wherein the SWI/SNF complex is BRM.

48. (New)The method of claim 44, wherein the chromatin remodeling complex comprises BRG1.

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49. (New)The method of claim 44, wherein the chromatin remodeling complex comprises BAF 155.

50. (New)The method of claim 44, wherein the chromatin remodeling complex comprises BAF 170.

51. (New)The method of claim 44, wherein the chromatin remodeling complex comprises BRG1 and BAF 155.

52. (New)The method of claim 38, wherein the one or more subunits of the chromatin remodeling complex are selected from the group consisting of RSC, NURF, CHRAC, ACF, NURD and RSF

53. (New)The method of claim 38, wherein the one or more subunits or the chromatin remodeling complex are selected from the group consisting of BRG1, BRM, BAF 155, BAF 170, INi1, BAF 60, BAF 47 and BAF 57.

54. (New)The method of claim 38, wherein the nucleic acid regulatory protein is selected

from the group consisting of GATA-1, Sp1, EKLF, FKLF , BKLF , GKLF, LKLF, Wilm's tumor suppressor protein (WT1), BRCA1, BRCA2, KRAB, BTB/POZ, Zif268, GLI, Xfin , a BTB/POZ domain containing zinc finger protein, PLZF (promyelocytic leukemia zinc finger) and a nuclear hormone receptor.

55. (New)The method of claim 41, wherein the zinc finger domain is from a nuclear hormone receptor.

56. (New)The method of claim 55, wherein the nuclear hormone receptor is selected from the group consisting of an androgen, estrogen, thyroid, progesterone, and glucocorticoid receptor.

57. (New)The method of claim 38, wherein the nucleic acid regulatory protein binds to a promoter, an enhancer, an insulator, a silencer or locus of control regions (LCRs].

58. (New)The method of claim 38, wherein one or more subunits of the chromatin remodeling complex or the domain of a nucleic acid regulatory protein is labeled with a fluorescent tag.

59. (New)The method of claim 38, further comprising using the test compound in an *in vitro* chromatin remodeling or transcription assay comprising the specific DNA sequence.

60. (New)The method of claim 38 , wherein the test compound is a small molecule.

61. (New)The method of claim 38, wherein the test compound is a peptide.

62. (New)A test compound identified by the method of claim 38.

~~63.~~ (New)A method to identify a test compound that modulates chromatin remodeling of a specific DNA sequence within chromatin comprising:

a) providing chromatin assembled DNA containing the specific DNA sequence;

b) contacting the chromatin assembled DNA with one or more subunits of a chromatin remodeling complex, a domain of a nucleic acid regulatory protein, and the test compound; and

c) determining the level of chromatin remodeling in the presence and absence of the test compound.

64. (New)The method of claim 63, wherein the specific DNA sequence is an individual gene or portion thereof, a regulatory region or a chromosomal region.

65. (New)The method of claim 63, wherein the domain is a DNA binding domain.

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66. (New)The method of claim 63, wherein the nucleic acid regulatory protein is a transcription factor.

67. (New)The method of claim 65, wherein the domain is a zinc-finger domain.

68. (New)The method of claim 65, wherein the domain is helix-turn-helix or helix loop helix containing a leucine zipper motiff.

69. (New)The method of claim 63, wherein the domain is a peptide.

70. (New)The method of claim 63, wherein the chromatin remodeling complex is SWI/SNF.

71. (New)The method of claim 63, wherein the chromatin remodeling complex is ISWI.

72. (New)The method of claim 70, wherein the SWI/SNF complex is E-RC1.

73. (New)The method of claim 70, wherein the SWI/SNF complex is BRM.

74. (New)The method of claim 70, wherein the chromatin remodeling complex comprises BRG1.

75. (New)The method of claim 70, wherein the chromatin remodeling complex comprises BAF 155.

76. (New)The method of claim 70, wherein the chromatin remodeling complex comprises BAF 170.

77. (New)The method of claim 70, wherein the chromatin remodeling complex comprises BRG1 and BAF 155.

78. (New)The method of claim 63, wherein the one or more subunits of a chromatin remodeling complex are selected from the group consisting of RSC, NURF, CHRAC, ACF, NURD and RSF

79. (New)The method of claim 63, wherein the one or more subunits of a chromatin remodelling complex are selected from the group consisting of BRG1, BRM, BAF 155, BAF 170, INi1, BAF 60, BAF 47 and BAF 57.

80. (New)The method of claim 63, wherein the nucleic acid regulatory protein is selected from the group consisting of GATA-1, Sp1, EKLF, FKLF , BKLF , GKLF, LKLF, Wilm's tumor suppressor protein (WT1), BRCA1, BRCA2, KRAB, BTB/POZ, Zif268, GLI, Xfin , a BTB/POZ domain containing zinc finger protein, PLZF (promyelocytic leukemia zinc finger) and a nuclear hormone receptor.

81. (New)The method of claim 63, wherein the domain is from a nuclear hormone receptor.

82. (New)The method of claim 81, wherein the nuclear hormone receptor is selected from the group consisting of an androgen, estrogen, thyroid, progesterone, and glucocorticoid receptor.

83. (New)The method of claim 63, wherein the nucleic acid regulatory protein binds to a promoter, an enhancer, an insulator, a silencer or locus of control regions (LCRs].

84. (New)The method of claim 63 , the test compound is a small molecule.

85. (New)The method of claim 63, wherein the test compound is a peptide.

86. (New)A test compound identified by the method of claim 63.

87. (New)The method of claim 63, further comprising using the test compound in an *in vitro* transcription assay comprising the specific DNA sequence.

88. (New) The method of claim 63, wherein the amount of chromatin remodeling is determined by assaying for DNAse hypersensitive sites within the specific DNA sequence.

Remarks

Reconsideration and withdrawal of the rejections of the claims, in view of the remarks and new claims presented herein, is respectfully requested. Claims 38-88 are pending. New claims 38-88 replace original claims 1-37 so as to more clearly present aspects of the claimed invention that are directed toward the identification of test compounds that modulate chromatin remodeling of specific DNA sequences.

Applicant respectfully requests that a copy of the 1449 Form, listing all references that were submitted with the Information Disclosure Statement filed on July 5, 2001, be marked as being considered and initialed by the Examiner and returned with the next official communication. A copy of the 1449 Form with the corrected spelling of the author's name (Muchardt) on page 3 is enclosed herewith for the Examiner's convenience.